

# APPENDIX I

## INDEPENDENT STRUCTURAL ENGINEER REVIEW

**I-1 Primary structure:** For the purposes of the independent structural engineering review, the primary structure shall be defined as the structural frame, the load supporting parts of floors, roofs, and walls, and the foundations. Cladding, cladding framing, stairs, equipment supports, ceiling supports, non-load bearing partitions, and railings are excluded from this definition of primary structure.

**I-2 Reviewing engineer:** The reviewing engineer shall be engaged by the owner.

**I-2.1 Qualifications:** The reviewing engineer shall be a registered professional engineer, registered in Massachusetts, qualified by experience and training and who shall have had structural design experience with buildings or structures similar to that covered by the application for the building permit. The reviewing engineer shall be impartial, and shall be independent of the architect of record, structural engineer of record, and contractors and suppliers who will be involved in the construction of the structure.

**I-3 Criteria for review:** The reviewing engineer shall review the plans and specifications submitted with the application for the building permit for compliance with the structural and foundation design provisions of the Code. The reviewing engineer shall perform the following tasks:

1. Check to assure that the design loads conform with 780 CMR;
2. Check that other design criteria, and design assumptions, conform to 780 CMR and are in accordance with accepted engineering practice;
3. Review geotechnical and other engineering investigations that are related to the structural design to determine if the design properly incorporates the results and recommendations of the investigations;
4. Check that the organization of the structure is conceptually correct ; and

5. Make independent calculations for a representative fraction of systems, members, and details to check their adequacy. The number of representative systems, members, and details shall be sufficient to form a basis for the reviewer's conclusions.

**I-3.1 Structural Calculations:** The structural calculations prepared by the structural engineer of record shall be submitted to the reviewing engineer, upon the reviewing engineer's request, for his or her reference only. The reviewing engineer shall not be obligated to review or check these calculations. If the design criteria and design assumptions are not shown on the drawings or in the computations, the structural engineer of record shall provide a statement of these criteria and assumptions for the review.

**I-4 Structural engineer of record:** The structural engineer of record shall retain sole responsibility for the structural design, and the activities and reports of the reviewing engineer shall not relieve the structural engineer of record of this responsibility.

**I-5 Report and follow-up:**

1. The reviewing engineer shall prepare a report to the building official stating whether or not the structural design shown on the drawings and the specifications conform with the structural and foundation requirements of 780 CMR. Said report shall be based on the review as prescribed in this appendix and shall include a summary of all deficiencies, if any, which cannot be resolved with the structural engineer of record.
2. The structural engineer of record shall review the report of the reviewing engineer, and notify the building official in writing, whether or not he agrees with or disputes the conclusions and recommendations of the reviewing engineer.
3. Unresolved disputes between the structural engineer of record and the reviewing engineer shall be submitted by the building official, the owner,

THE MASSACHUSETTS STATE BUILDING CODE

the structural engineer of record or the reviewing engineer to the Structural Peer Review Advisory Board for resolution.

4. Any changes to the structural design subsequent to the original submission of the plans and specifications shall be shown on revised drawings and specifications, submitted with an amendment to the application for permit. The

**I-6 Foundation permits:** When the plans and specifications are partially complete and an application is made for a foundation permit, the reviewing engineer may review the foundation plans and specifications on a conditional basis, provided that the reviewing engineer is given sufficient documentation so that he can perform Appendix I-3 Tasks 1, 2, 3, and 4 for the whole structure, and so that he can perform Appendix I-3 Task 5 for that part of the foundation covered by the application for foundation permit. The reviewing engineer shall

reviewing engineer shall review the changes on the revised drawings and specifications, and, if the original report does not account for the changes in said drawings and specifications, a supplementary report relating to the changes and prepared by the reviewing engineer shall be made to the building official.

prepare a report on that part of the foundation covered by the application for foundation permit, as prescribed in Appendix I-5, stating all conditions upon which the report is based. When the reviewing engineer reviews the completed plans and specifications as prescribed in Appendix I-3, the reviewing engineer shall reperform Tasks 1, 2, 3, and 4, as necessary, to include all the revisions to the design subsequent to the application for the foundation permit.